

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: HOPPER, S. et al.

EXAMINER: Sharma, S.

SERIAL NO.: 09/614,026

GROUP: 2684

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CASE NO.: PF01949NA

ENTITLED: METHOD AND APPARATUS FOR DETERMINING A PRO-ACTIVE
REGION OF A MOBILE AD HOC NETWORK

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APPEAL BRIEF UNDER 37 C.F.R. § 1.192(c)

MS Appeal Brief - Patents
Commissioner for Patents
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Alexandria, VA 22313-1450

Sir:

Further to the Notice of Appeal filed on February 10, 2004, Applicant submits the
present Appeal Brief.

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I. REAL PARTY IN INTEREST

The real party in interest is, Motorola, Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-7, 9-18 and 20-26 are pending. Claims 1-7, 9-18, and 21-26 are rejected and are the subject of the present appeal.

IV. STATUS OF AMENDMENTS

No amendments were made to the claims after the September 10, 2003 Final Office Action.

V. SUMMARY OF INVENTION

The inventions are drawn generally to a method and apparatus of determining a pro-active region of a mobile ad hoc network where positional information is received from a plurality of users to determine a pro-active region (page 7, lines 8-13, Fig. 3, elements 306 and 308, Fig. 1, element 120, and Fig. 4, element 120'). Topographical information is also used to determine the pro-active region (page 11, lines 1-120).

VI. ISSUES

Whether independent claims 1, 12, and 26 are patentable under 35 U.S.C. §102 over Robert et al. (U.S. Patent No. 6,104,712).

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VII. GROUPING OF CLAIMS

Claims 1-7, 9-18 and 20-26 stand or fall together regarding the rejection under 35 USC §102.

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VIII. ARGUMENT

Claim Limitations at Issue:

10 Selecting a first portion of a plurality of users to be within a pro active region based upon positional and topographic information and maintaining information on the users selected to be within a pro active region.

Examiner's Allegation:

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Claims 1-7, 9-18, 20, and 21 stand rejected under 35 U.S.C. § 102 over Robert et al. (U.S. Patent No. 6,104,712).

Applicants' Argument:

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"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131, citing *Verdegal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

25

Robert et al. does not disclose or suggest selecting a first portion of a plurality of users to be within a pro active region based upon positional and topographic information and maintaining information on the users selected to be within a pro active region, as recited in independent claim 1 and similarly recited in independent claims 12 and 26.

30

Robert et al. discloses a method of wireless communication using a distributed access network. The method provides plural migratory or roving access nodes to populate a region of desired service, optionally determines a node-to-node route between a source and destination, initiates a data transfer between the source and destination by way of the

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migratory nodes, conveys information from the source to the destination by relaying the information between and among the migratory nodes, and receives the information at the destination node (col. 2, lines 22-31).

While Robert et al. mentions transceiver characteristics may be altered according to environment surroundings, terrain, or other factors (col. 2, lines 36-40), Applicants maintain this does not amount to accessing topographic information and selecting a plurality of users based on the topographical information. In particular, altering transceiver characteristics is not selecting a plurality of users. Furthermore, this is not a disclosure of accessing topographic information. For example, a signal strength indicator may be used to determine the effects of environment surroundings or terrain. Thus, noticing the influences of environment surroundings and terrain does not amount to accessing topographic information. Accordingly, this element is not expressly or inherently disclosed in Robert et al.

In the "Response to Arguments" section, the September 10, 2003 Office Action alleges that col. 2, lines 20-40 discloses an ad-hoc network is formed based on environmental surroundings and terrain, which reads on forming an ad-hoc network based on topographic information. Applicants disagree. Applicants assert an ad-hoc network is not formed based on the environment surroundings and terrain. In particular, the cited section only discloses "transceiver characteristics may be altered" according to environment surroundings and terrain. In fact, the Office Action does not even address all of the arguments asserted in the previous Amendment to this effect. Thus, the Office Action appears to conceded that Applicants' remarks support the fact that Roberts et al. does not disclose selecting a first portion of a plurality of users to be within a pro active region based upon positional and topographic information.

Furthermore, Robert et al. does not disclose maintaining information on users selected to be in a pro active region. In particular, in col. 2, lines 20-40, Robert et al. states a node-to-node route between a source and a destination is determined for data transfer between a source and a destination. Thus, the environmental surroundings and terrain are only considered when data transfer is performed, not for the creation of a pro active region. Accordingly, Robert et al. does not disclose maintaining information on users selected to be in a pro active region.

Additionally, while Robert et al. mentions "network topography" (col. 4, line 46), this network topography is not the claimed topographic information. In particular, topographic information is defined in the present specification at page 11, lines 2-20, as being formations

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that may interfere with communications. Network topography defines the ad hoc network, not formations that may interfere with communications. Thus, the disclosure of network topography is not the disclosure of topographic information.

Also, while Robert et al. mentions using longitude, latitude, and an elevation
5 parameter (col. 6, lines 45-47), these parameters are not topographic information. In particular, these parameters are position parameters such as the claimed position information. Whereas, topographic information is separate information from position parameters. In particular, topographic information can represent formations that may interfere with communications. Accordingly, position parameters are not topographic information.

10 Thus, Robert et al. does not disclose or suggest selecting a first portion of a plurality of users to be within a pro active region based upon positional and topographic information and maintaining information on the users selected to be within a pro active region, as recited in independent claim 1 and similarly recited in independent claims 12 and 26.

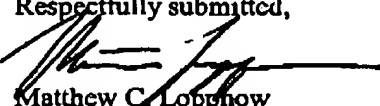
15 Therefore, Applicants respectfully submit that independent claims 1, 12, and 26 define patentable subject matter. The remaining claims depend from the independent claims and therefore also define patentable subject matter. Accordingly, kindly reverse and vacate the rejection of claims 1, 12, and 26 under 35 USC § 102, with instructions for the Examiner to allow Claims 1-7, 9-18 and 20-26.

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CONCLUSION

In view of the discussion above, the claims of the present application are in condition
5 for allowance. Kindly reverse and vacate the rejections of claims 1, 12, and 26, with
instructions for the Examiner to allow claims 1-7, 9-18 and 20-26 to issue as a United States
Patent without further delay.

Respectfully submitted,


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IX. APPENDIX

Claims involved in the appeal:

5 1. A method of operating a wireless device, comprising:
 receiving positional information from a plurality of users in an ad hoc network;
 selecting a first portion of the plurality of users to be within a pro active region
 based upon said positional information;
 maintaining information on the users selected to be within the pro active
10 region; and
 accessing topographical information on a region in which the wireless device is
 currently located,
 wherein selecting the first portion of the plurality of users further comprises
 selecting the users based on the positional and topographical information.

15 2. A method, as set forth in claim 1, wherein receiving said positional information
 further comprises receiving information on the position, heading, and speed of the plurality of
 users in the ad hoc network.

20 3. A method, as set forth in claim 2, wherein selecting the first portion of the
 plurality of users further comprises selecting the users that are relatively stationary to be
 within the pro active region.

25 4. A method, as set forth in claim 2, further comprising determining the position,
 heading and speed of the wireless device, and wherein selecting the first portion of the
 plurality of users further comprises selecting the users that have a position, heading and speed
 similar to that of the wireless device to be within the pro active region.

30 5. A method, as set forth in claim 1, further comprising calculating a heading and
 speed of the plurality of users in the ad hoc network.

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6. A method, as set forth in claim 5, wherein selecting the first portion of the plurality of users further comprises selecting the users that are relatively stationary to be within the pro active region.

5 7. A method, as set forth in claim 5, further comprising determining the position, heading and speed of the wireless device, and wherein selecting the first portion of the plurality of users further comprises selecting the users that have a position, heading and speed similar to that of the wireless device to be within the pro active region.

10 8. (canceled)

9. A method, as set forth in claim 8, wherein selecting the first portion of the plurality of users further comprises selecting the users based on the absence of topographical features that could interfere with communications between the wireless device and the
15 selected users.

10. A method, as set forth in claim 1, further comprising accessing a radio frequency map of a region in which the wireless device is currently located, and wherein selecting the first portion of the plurality of users further comprises selecting the users based
20 on the positional information and the radio frequency map.

11. A method, as set forth in claim 10, wherein selecting the first portion of the plurality of users based on the positional information and the radio frequency map further comprises selecting the users located within relatively high strength regions of the radio
25 frequency map.

12. A wireless device for use in an ad hoc network, comprising:
a transceiver capable of receiving positional information from a plurality of
remote users;
30 a global positioning system capable of generating positional information
regarding the wireless device; and

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a controller capable of selecting a first portion of the plurality of remote users to be within a pro active region based upon said positional information, and maintaining information on the remote users selected to be within the pro active region,

5 wherein the controller is capable of accessing topographical information on a region in which the wireless device is currently located, and selecting the first portion of the plurality of remote users based on the positional and topographical information.

10 13. A wireless device, as set forth in claim 12, wherein said transceiver is capable of receiving positional information that includes information on the position, heading, and speed of the plurality of remote users in the ad hoc network.

15 14. A wireless device, as set forth in claim 13, wherein the controller is capable of selecting the first portion of the plurality of remote users by selecting the users that are relatively stationary to be within the pro active region.

20 15. A wireless device, as set forth in claim 13, wherein the controller is capable of selecting the first portion of the plurality of remote users by selecting the remote users that have a position, heading and speed similar to that of the wireless device to be within the pro active region.

25 16. A wireless device, as set forth in claim 12, wherein the controller is capable of calculating a heading and speed of the plurality of remote users in the ad hoc network.

30 17. A wireless device, as set forth in claim 16, wherein the controller is capable of selecting the first portion of the plurality of remote users by selecting the users that are relatively stationary to be within the pro active region.

18. A wireless device, as set forth in claim 16, wherein the controller is capable of selecting the first portion of the plurality of remote users by selecting the remote users that have a position, heading and speed similar to that of the wireless device to be within the pro active region.

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19. (canceled)

20. A wireless device, as set forth in claim 19, wherein the controller is capable of selecting the first portion of the plurality of remote users based on the absence of
5 topographical features that could interfere with communications between the wireless device and the selected remote users.

21. A wireless device, as set forth in claim 12, wherein the controller is capable of accessing a radio frequency map of a region in which the wireless device is currently located,
10 and selecting the first portion of the plurality of users based on the positional information and the radio frequency map.

22. A method, as set forth in claim 1, wherein the topographical information comprises topographic maps of manmade structures.
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23. A method, as set forth in claim 1, wherein the topographical information comprises topographic maps including naturally occurring geographic formations.

24. A wireless device, as set forth in claim 12, wherein the topographical
20 information comprises topographic maps of manmade structures.

25. A wireless device, as set forth in claim 12, wherein the topographical information comprises topographic maps including naturally occurring geographic formations.

25 26. A method of operating a wireless device, comprising:
receiving positional information from a plurality of users in an ad hoc network;
accessing topographical information on a region in which the wireless device is
currently located, wherein the topographical information comprises a topographic map of
formations that may interfere with communications between the plurality of users;
30 selecting a first portion of the plurality of users to be within a pro active region
based upon the positional information and the topographical information; and

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maintaining information on the users selected to be within the pro active
region.